

Critical Test Values (Attachment A)

Clinical Chemistry			
Analyte	Low Critical	High Critical	Units
Glucose	<46	>484	mg/dL
Neonate Glucose	<32	>327	
Potassium	<2.8	>6.2	mmol/L
Calcium	<6.6	>12.9	mg/dL
Sodium	<120	>158	mmol/L
CO2	<11	>40	mmol/L
Magnesium	<1.0	>4.9	mg/dL
Phosphorus	<1.2	>8.9	mg/dL
Total Bilirubin	N/A	>15.0	mg/dL
Osmolality	<250	>326	mmol/kg
BUN	N/A	>104	mg/dL
Neonate BUN	N/A	>70	
CSF Glucose	<37	>438	mg/dL
Creatinine	N/A	>7.4	mg/dL
Neonate Creatinine		>1.5	
Troponin		>0.12	ng/mL
Lactic Acid		>2	mmol/L
Carbon Monoxide		>20	%
Ethanol		>400	
HIV	positive	positive	

Hematology			
Analyte	Low Critical	High Critical	Units
Hemoglobin	<6.6	>19.9	mg/dL
Neonate Hemoglobin	<9.5	>22.3	
Platelets	<37 > (<37,000)	>910 (>910,000)	cu/mm x 10 ⁹ /L
WBC count	<2.0 (<2000)	>37.0 (>37,000)	cu/mm x 10 ⁹ /L
INR (therapeutic)	N/A	>4.0	
PTT	N/A	>100	Seconds
Fibrinogen	<88	>775	mg/dL
D-Dimer	N/A	>229 (OP & ED only)	ng/mL

Critical Echocardiograms: when any of the following are identified: severe valvular abnormality previously unknown, hemodynamically significant pericardial effusion, cardiac masses or tumors, vegetations, dissection of the aorta, severe decrease in Ejection Fraction to less than or equal to 35% that is not previously documented.

Computer/Staff Assisted Arrhythmia Recognition (EKG) in inpatient settings: when any of the following are identified via computer generated results or by hospital staff: high-grade AV block, ventricular tachycardia or ventricular fibrillation, new onset atrial fibrillation or atrial flutter, any narrow complex or wide complex tachycardia with a heart rate greater than 130 BPM, bradycardia with rate less than 40 BPM, pauses longer than or equal to 3 seconds, asystole, ST elevation or ST depression myocardial infarction.

Telemetry in inpatient setting: high-grade AV block, new onset of atrial fibrillation or atrial flutter, bradycardia with heart rate of less than 40 bpm, ventricular tachycardia or ventricular fibrillation, any narrow complex or wide complex tachycardia with a heart rate greater than 130 bpm, pauses longer than or equal 3 seconds, asystole, ST elevation or ST depression myocardial infarction.

Stress Tests: when any of the following are identified: significant arrhythmias that are sustained, ventricular tachycardia or new onset of atrial fibrillation without return to baseline when the test is terminated; strongly positive stress test more than 1.5 to 2 mm of ST depression with symptoms; hemodynamic compromise including hypotensive response to exercise stress test; significant symptoms unresolved after initial therapy determined by the stress nurse or midlevel provider.

Holters in the outpatient setting: when any of the following are identified via computer generated results or by hospital staff: high-grade AV block, new onset of atrial fibrillation or atrial flutter, pauses longer than or equal to 3 seconds, bradycardia (HR less than 40 BPM), ventricular tachycardia or ventricular fibrillation, any narrow complex or wide complex tachycardia with a heart rate greater than 130 bpm, asystole.

Carotid Doppler: 90 – 99% stenosis of the internal carotid artery; occlusion of the internal or common carotid artery in a patient with no prior history; “trickle flow” or the “string sign” of the common or internal carotid artery.

Venous Doppler: presence of undocumented or unknown thrombus; propagation of known/documented thrombus.

Arterial Doppler: occlusion of limb arterial supply; occlusion of a bypass graft that has never been found to be occluded in the past; doubling of a vein graft velocity compared to a prior study.

Therapeutic Drugs			
Analyte	Therapeutic	High Critical	Units
Gentamicin (Trough)		>2.0	ug/mL
Tobramycin (Trough)		>2.0	ug/mL
Vancomycin (Trough)		>30.00	ug/mL
Acetaminophen	5.0-20.0	>200.00	ug/mL
Salicylate	10.0-30.0	>40	ug/mL
Carbamazepine	4.0-12.0	>20.0	ug/mL
Phenytoin	10.0-20.0	>40.0	ug/mL
Valproic Acid	50.0-100.0	>200.0	ug/mL
Theophylline	10.0-20.0	>25.0	ug/mL
Digoxin	0.5-2.0	>2.5	ug/mL
Lithium (MC)		>2.0	Eq/l

Qualitative Critical Results

Blood Bank And Immunology
Positive DAT post transfusion
Microbiology and Parasitology
Positive results from gram stain or culture from blood, and cerebrospinal fluid (CSF)
Positive Cryptococcal Antigen test
Positive results from acid-fast bacillus stain or culture
Positive test for stool pathogens
Presence of malarial parasites on peripheral blood smear
Positive TB from direct molecular probe
Clinical Microscopy and Urinalysis
Elevated WBC count in cerebrospinal fluid (>= 6 ul)
Presence of malignant cells, blasts, or microorganisms in cerebrospinal fluid or body fluids
Presence of pathologic crystals (cysteine, leucine, or tyrosine) in urine

Anatomic Pathology

Cases that have Immediate Clinical Consequences
Temporal giant cell arteritis
Leukocytoclastic vasculitis of skin
Herpes virus cytopathic effect in PAP smears of near term pregnant patients
Bacterial endocarditis with or without marantic vegetations
Fat in endometrial curettage
Mesothelial cells in a heart biopsy
Neoplasms causing compression of spinal cord
Acute diskitis or osteomyelitis of vertebral spine
Malignancy in superior vena cava syndrome
Uterine contents without villi or trophoblast
Free fat in colonic endoscopic polypectomies
Bacteria, fungi or acid fast organisms in CSF of immunocompromised patients
Acute Leukemia (bone marrow or peripheral blood samples or granulocytic sarcoma in tissue)
Finding unexpected tissues in pathology samples
Unexpected or Discrepant Findings
Significant disagreement between frozen section and final diagnosis
Significant disagreement between immediate interpretation and FNA diagnosis
Unexpected malignancy
Significant disagreement and/or change between primary pathologist and outside consultation (at either the original or consulting institution)

Radiology/Interventional Radiology Results		
Anatomical Area	Complete Alert within 1 hour	
CNS	Acute stroke	
	Code Stroke CT scan results whether positive or negative	
	Brain tumor (mass effect)	
	Cervical spine fracture	
	Depressed skull fracture	
	Previously unknown cerebral hemorrhage/hematoma	
	Spinal cord compression	
Neck	Carotid artery dissection	
	Critical carotid stenosis >90%	
	Epiglottitis	
Chest	Acute pulmonary embolism – intermediate or high probability	
	Mediastinal emphysema	
	Previously unknown pneumothorax > 5cm	
Chest/Abdomen	Aortic dissection	
	Impending rupture of aneurysm	
	Presence of aortic aneurysm > 6cm	
	Ruptured aneurysm	
Abdomen	Appendicitis	
	Bowel obstruction	
	Emphysematous cholecystitis	
	Free air in abdomen w/ no recent surgery	
	Intussusception	
	Ischemic bowel	
	Portal venous air	
	Retroperitoneal hemorrhage	
	Traumatic visceral injury	
	Volvulus	
Uro-genital	Biophysical Profile < 5	
	Ectopic pregnancy	
	Fetal demise	
	Fetal hydrops	
	IUGR	
	Placental abruption	
	Placental previa near term	
	Severe oligohydramnios AFI < 5cm	
	Testicular or ovarian torsion	
Vascular	DVT or vascular occlusion	
General	Previously unknown abscess > 4cm	
	Significant line or tube misplacement	